

REMARKS

Claims 1-3, 9-17, 24-29 and 32 are pending and stand ready for further action on the merits. The claims have been amended to remove non-elected subject matter. No new matter has been added by way of the above-amendment.

Interview

Applicants note with appreciation that the Examiner conducted an interview with Applicants' representative on January 14, 2003. The Examiner was very helpful in clarifying the outstanding issues.

As noted on the Interview Summary Form, the Examiner agreed that should Applicants argue that the inventive surface area characteristics of the manganese dioxide particles distinguish the inventive gas generant composition from the teachings of the combined references, the Examiner would expand the scope of the examined subject matter beyond the specific species elected in Applicants' Response dated May 20, 2002.

With regard to the specific surface area characteristics of the manganese dioxide particles, Applicants enclose a Declaration under 37 C.F.R. §1.132 signed by one of the co-

inventors, Mr. Shogo Tomiyama. Further details of the Declaration are given below.

Issues Under 35 U.S.C. §103

Claims 1-3, 13, 15, 18, 24-26 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ramaswamy et al. in view of Yoshida and Butt et al. Applicants respectfully traverse the rejection.

As noted during the January 14, 2003 interview, and in the outstanding Office Action, the Examiner is relying on Ramaswamy et al. for teaching that the gas generant composition can have a manganese dioxide component having a specific surface area of not less than 50 m<sup>2</sup> per gram. The Examiner acknowledges that Ramaswamy et al. only teach that the particles have an average diameter of 2-5 microns and is silent with respect to the specific surface area of the particles.

In accordance with the Examiner's request made during the January 14, 2003 interview, the attached Declaration is offered as evidence that since Ramaswamy et al. neither teach nor suggest that the manganese dioxide particles have fine pores or have been agglomerated, it is not believed that the manganese dioxide particles could have a specific surface area of not less than 50 m<sup>2</sup> per gram as presently claimed.

As the MPEP directs, all the claim limitations must be taught or suggested by the prior art to establish a *prima facie* case of obviousness. See MPEP §2143.03. Since the cited references fail to teach or suggest manganese dioxide particles having a specific surface area of not less than 50 m<sup>2</sup> per gram as presently claimed, Applicants respectfully submit that a *prima facie* case of obviousness can not be said to exist. As such, withdrawal of the rejection is respectfully requested.

**Notice of References Cited (PTO-892 Form)**

The Examiner has listed several references on the PTO-892 form enclosed with the outstanding Office Action that were not discussed in the Examiner's remarks. Applicants respectfully request that the Examiner indicates why references A, B, F and G were cited on the PTO-892 form for clarity of the record.

**Conclusion**

In view of the above amendments and comments, Applicants respectfully submit that the claims are in condition for allowance. A notice to such effect is earnestly solicited.

Applicants have attached hereto a marked up version of the claims to show the changes made for the Examiner's convenience.

Pursuant to the provisions of 37 C.F.R. §§ 1.17 and 1.136(a), the Applicants hereby petition for an extension of three (3) months to February 5, 2003 in which to file a reply to the Office Action. The required fee of \$930.00 is enclosed herewith.

If the Examiner has any questions concerning this application, he is requested to contact Garth M. Dahlen, Ph.D. (#43,575) at the offices of Birch, Stewart, Kolasch & Birch, LLP.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for

any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Version with Markings to Show Changes Made

VERSION WITH MARKINGS TO SHOW CHANGES MADEIN THE CLAIMS:

Claims 4-8, 18-23, 30 and 31 have been cancelled.

The claims have been amended as follows:

1. (Amended) A gas generant composition comprising a nitrogen-containing organic compound, an oxygen-containing inorganic oxidizer, and a third component of [at least one selected from the following (1) through (4):

(1)] manganese dioxide having a specific surface area not less than 50 m<sup>2</sup>/g[;

(2) copper oxide having a specific surface area not less than 1 m<sup>2</sup>/g;

(3) a molybdenum compound of at least one selected from the group consisting of molybdenum dioxide, molybdenum trioxide, molybdic acid and ammonium molybdate; and

(4) a mixture of manganese dioxide and at least one metal oxide selected from the group consisting of copper oxides, cobalt oxides, iron oxides and silver oxides].

9. (Amended) The composition according to claim 1,  
wherein the third component further comprises a metal oxide  
which is at least one selected from the group consisting of  
[CuO, Cu<sub>2</sub>O, Co<sub>3</sub>O<sub>4</sub>, Fe<sub>2</sub>O<sub>3</sub> and Ag<sub>2</sub>O] copper oxides, cobalt  
oxides, iron oxides, and silver oxides.

10. (Amended) The composition according to claim [1, wherein the third component is (4) mentioned above and] 9, wherein the ratio of manganese dioxide to the metal oxide by weight is 0.2 through 50.

11. (Amended) The composition according to claim [1] 9, wherein the [third component is (4) mentioned above is] manganese dioxide and metal oxide are contained in an amount of 1 through 40% by weight of the composition.

25. (Amended) A gas generant composition comprising a nitrogen-containing organic compound, an oxygen-containing inorganic oxidizer, and a third component of [at least one selected from the following (1) through (4) :

(1)] manganese dioxide having a specific surface area not less than 50  $\text{m}^2/\text{g}$ ;

[ (2) copper oxide having a specific surface area not less than 1  $\text{m}^2/\text{g}$ ;

(3) a molybdenum compound of at least one selected from the group consisting of molybdenum dioxide, molybdenum trioxide, molybdic acid and ammonium molybdate; and

(4) a mixture of manganese dioxide and at least one metal oxide selected from the group consisting of copper oxides, cobalt oxides, iron oxides and silver oxides;]

wherein the composition does not include an alkali metal salt or alkaline earth metal salt of hydrazoic acid.

Claim 32 has been added.